

Effective Date: Fall 2009-2010

Course Description

Prerequisite: ENGL 1002. Basic ecological principles related to populations, communities and ecosystems. The scientific approach to environmental issues and society's response to these issues are emphasized.

Course Objectives

Students will:

1. Understand the concepts of community, population, ecosystem and biome.
2. Understand the factors that influence community structure.
3. Understand energy flow and biogeochemical cycles in ecosystems.
4. Understand the basic principles of population ecology.
5. Describe the history of human population growth and relate it to the basic principles of population ecology.
6. Discuss environmental issues related to biological resources.
7. Discuss environmental issues related to physical resources.
8. Discuss the impact of the human population on the environment and potential future solutions to the environmental problems humans have caused.
9. Be able to locate primary literature in the discipline, and extract the main points from the literature.

Procedures to Evaluate these Objectives

1. Written exams over lecture and reading materials.
2. Research paper or class project.
3. Evaluation of students' participation in class discussions.
4. Evaluation of students' performance in discussions of primary literature.

Use of Results of Evaluation to Improve the Course

1. Student performance on, and reaction to, written exams will be used to help determine future course content, presentation and testing.
2. Student performance on the paper or project will be used to help ascertain the depth of students' understanding of the course material and to make adjustments to course content and presentation in the future.
3. Students' contributions to class discussions will be used to help determine how well the students are understanding and applying the course material and to make adjustments to

- course content, presentation, and assignments in the future.
4. Student performance on discussions of primary literature and students' use of literature in the research paper/project will be used to determine how well students are accessing and understanding scientific information and understanding application of the scientific method.

Detailed Topical Outline

1. Basic Ecological Principles
 - a. Communities, ecosystems and biomes
 - b. Population ecology
 - c. Human populations
2. Environmental issues related to Biological Resources
 - a. Biodiversity
 - b. Rare and endangered species
 - c. Food and agriculture
 - d. Ecosystem management and sustainable development
3. Environmental issues related to Physical Resources
 - a. Soil
 - b. Minerals
 - c. Air
 - d. Water